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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,576	02/09/2004	Eric Theodore Bax		1471

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EXAMINER

ADAMS, CHARLES D

ART UNIT	PAPER NUMBER
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2164

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/775,576

Applicant(s)

BAX ET AL.

Examiner

Charles D. Adams

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. In response to communications filed on 3 November 2006, claims 1-5 are amended, and claims 6-7 are added per applicant's request. Claims 1-7 are pending in the application.
2. The amendments to the specification filed 3 November 2006 have been entered.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-7 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims do not recite a practical application by producing a physical transformation or producing a useful, concrete, and tangible result. To perform a physical transformation, the claimed invention must transform an article or physical object into a different state or thing. Transformation of data is not a physical transformation. A useful, concrete, and tangible result must be either specifically recited in the claim or flow inherently therefrom. To be useful the claimed invention must establish a specific, substantial, and credible utility. To be concrete the claimed invention must be able to produce the same results given the same initial starting conditions. To be tangible the claimed invention must produce a practical application or real world result. In this case the claims fail to produce a useful or tangible result. As to usefulness, there is no

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claimed result of the computations recited in the claims. As to tangibility, there is no claimed real world result or output.

Simply generating an indication is neither useful or tangible, as there is nothing being done with that indication. In addition to this, the method can branch, either by finding a string that is less than the threshold edit distance value or stopping edit distance calculation of a string that is found to be greater than the threshold (see steps (e) and (f) of claim 1). As claim (f) may always occur, it is possible that there will never be a result. A useful and tangible result must exist in all possible branches the method will follow.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 and 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "forbearing from the indicating" in line 23. Claim 1 also recites the phrases "et seq." in lines 35-36 and 41. These limitations are unclear.

Claim 3 recites the limitation "a the lowest cell of the individual column" in line 5. This is ambiguous, as 'a' is indefinite and signifies the introduction of a new element, while 'the' is definite and implies antecedent basis.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zien et al. (US Patent 6,556,984) in view of Tomikawa et al. (US Pre-Grant Publication 2002/0072863).

As to claim 1, Zien et al. teaches:

(a) obtaining the search string (see 2:39-48)

Zien et al. does not teach obtaining a threshold value.

Tomikawa et al. teaches and the threshold value (see paragraph [0198]);

Zien et al. as modified teaches (b) selecting a first text from the list of texts as a present computation text (see Zien et al. 2:39-48);

(c) computing, column-by-column, a grid of edit distance values between the search string and the present computation text (see Zien et al. 4:48-5:11);

(d) stopping the computing in response to computing a column whose minimum value of edit distance is at least the threshold value (see Zien et al. 4:48-5:11. A table of edit distances is created; 6:42-50, A tree with depth first search can be used. Also see; Tomikawa et al. paragraph [0198] which teaches pruning a branch of a search tree if a threshold is passed);

(e) in response to completing the computer and the computer edit distance from the present computation text to the search string being below the threshold value, generating an indication that the edit distance of the present computation text from the search string is less than the threshold value (see Zien et al. 9:38-39. A cost is returned. In addition to this, Tomikawa et al. prunes search paths that are greater than the threshold value);

(f) in response to either stopping the computing or completing the computing and the edit distance from the present computation text to the search string not being below the threshold value, forbearing from the indicating (see Tomikawa et al. paragraph [0198]. Search paths that are greater than the threshold value are pruned and not completed);

(g) in response to completing the computing, selecting a next text in the list after the present computation text, as the present computation text (see Zien et al. 4:18-30);

(h) in response to stopping the computing, selecting a next text, in the list after the present computation text, that does not share with the present computation text a prefix corresponding to columns of the grid up to and including the column whose minimum value of edit distance is at least the threshold value, as the present computation text (see Zien et al. 7:40-65. A tree is created that corresponds to the grid, and depth first search is used on the tree. Also see; Tomikawa et al. paragraph [0198] which teaches pruning a branch of a search tree if a threshold is passed. Pruning will result in precluding as a result any nodes beneath the node that has passed the threshold);

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i) in response to step (h) returning to steps (c) et seq. (see Zien et al. 4:18-30 and 6:55-7:19);

(j) in response to step (g), returning to steps (c) et seq., but re using in step (c) columns of the grid computed for previous said computation text that correspond to any prefix shared by the previous computation text and the present computation text (see Zien et al. 5:21-49); and

(k) continuing to perform steps (c) et seq. until selecting reaches an end of the text list (see Zien et al. 5:12-20 and 6:65-7:19)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Zien et al. by the teaching of Tomikawa et al., since Tomikawa et al. teaches that “an object of the invention is to provide method and apparatus capable of automatically extracting and evaluating mutually coinciding or similar portions between sequences of atoms or atomic groups in molecules such as protein molecules in accordance with a simple processing mechanism” (see paragraph [0021]).

As to claim 2, Zien et al. as modified teaches further comprising:

Ordering the test list in a sequence to place texts with shared prefixes adjacent one to another in the sequence (see Figures 3A-3B and 6:65-7:19).

As to claim 6, Zien et al. as modified teaches further comprising:

Prior to step (b), sorting the texts in the list in lexicographical order (see Figures 3A and 3B, and 6:65-7:19).

As to claim 7, Zien et al. as modified teaches wherein:

Computing comprises

using dynamic programming to perform the computing (see Zien et al. 1:62-67).

Response to Arguments

9. Applicant's arguments filed 3 November 2006 have been fully considered but they are not persuasive.

In response to applicant's argument that the claimed invention is directed to non-statutory subject matter, Examiner notes that "generating an indication" is neither tangible or useful, as there is nothing being done with the indication. Examiner also notes that Applicant cites element (e) of Independent claim 1 as a concrete, useful, and practical result. However, element (e) only occurs when computing is completed. Therefore the result of "generating an indication" will not always occur. In element (f), "forbearing from the indicating" is not a useful or tangible result. Therefore, a useful and tangible result does not exist in every branch the program could take.

Applicant's arguments with respect to claims 1-2 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles D. Adams whose telephone number is (571) 272-3938. The examiner can normally be reached on 8:30 AM - 5:00 PM, M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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